5   **CLAIMS**

1.   A method of encoding data in a code block comprising an information bit
      sequence in a communication device of a communication system comprising the
      steps of:

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      separating the information bit sequence of a first coding branch into a first plurality
      of subsets of information bits, each subset forming a code block segment; and

      encoding the code block segments individually using at least one encoding
15   method.

2.   The method according to claim 1, further comprising the step of encoding the
      information bit sequence in a second coding branch individually and separate
      from the encoding operations of the first plurality of code block segments.

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3.   The method according to claim 2, wherein the step of encoding the information bit
      sequence is performed in a second coding branch arranged in parallel to a first
      coding branch, wherein the separation and encoding operations on the first
      plurality of code block segments are performed independently of the encoding
25   operations in the second coding branch.

4.   The method according to one of claims 1 to 3, wherein the individual encoding
      steps of the code blocks and/or the code block segments are performed in a time
      diversity manner.

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5.   The method according to one of claims 1 to 4, further comprising the additional
      step of buffering at least a portion of either the code block or the code block
      segments prior to the encoding step.

35 6.   The method according to one of claims to one of claims 1 to 5, wherein the
      individual encoding of the code block segments or code blocks is performed using
      different encoding methods.

7.   The method according to one of claims 1 to 6, wherein the encoding steps use at least one of convolutional codes, trellis codes, turbo codes, Reed-Solomon codes, parity check codes.

8.   The method according to one of claims 1 to 7, wherein the encoding step of the individually encoded code block segments or code blocks is performed in a plurality of parallel coding subbranches.

9.   The method according to one of claims 1 to 8, wherein the information bits of the individually encoded code block segments are complementary to each other.

10.   The method according to one of claims 1 to 9, wherein the segmentation of the code blocks is performed into code block segments of equal length.

11.   The method according to one of claims 1 to 10, wherein the length of the code blocks and/or code block segments is varied by zero-stuffing or partial repetition of the information bit sequence.

12.   The method according to one of claims 1 to 11, wherein the bits of the code blocks and code block segments are combined after encoding to form a code word corresponding to the original information bit sequence before encoding.

13.   The method according to one of claims 1 to 12, further comprising the step of interleaving the information bits of one or more coding branches and/or subbranches.

14.   The method according to claim 13, wherein the interleaving step uses different interleaving patterns for different coding branches or subbranches.

15.   The method according to one of claims 13 to 14, wherein the step of interleaving the information bits is performed after separation and prior to the encoding step into code block segments.

5   16.   The method according to one of claims 1 to 15, further comprising the step of adjusting the length of the code block prior to its separation into code block segments.

     17.   The method according to claim 16, wherein the adjustment is obtained by
10   appending termination bits to the information bit sequence in at least one coding branch or subcoding branch.

     18.   The method according to one of claims 1 to 17, further comprising the step of including an error detection code inserted before the encoding step.
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     19.   The method according to one of claims 1 to 18, wherein the separation is performed by periodically switching the input bit sequence to one of the subbranches.

20   20.   The method according to one of claims 1 to 18, wherein the separation is performed using a transition vector or matrix which signifies which input bit shall be forwarded to which subbranches.

     21.   The method according to one of claims 1 to 18, wherein the separation is
25   performed using a puncturing vector or matrix that determines which bits can pass through and which bits are removed for a particular subbranch.

     22.   An encoder for a communication device, adapted to carry out the method according to one of claims 1 to 21.
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     23.   A communication device of a wireless communication system comprising an encoder according to claim 22.